UPS Consulting

A Triple-A Supply Chain[1] for Defense Applications

October, 2004

1 “The Triple-A Supply Chain” is a recent article published by Dr. Hau Lee of Stanford University in Harvard Business Review, October 2004

Commercial supply chains have spent considerable time looking for speed and efficiency … other traits are also required.

Agility:

- Ability to respond to short-term changes in demand or supply
- Create dependability in supply and logistics partners
- Identify contingency plans

Adaptability:

- Create and use flexible product design
- Modify supply network to strategies, products, and technologies

Alignment:

- Exchange information and knowledge freely with vendors and customers
- Emphasize process integration over concessions in price
- Co-develop measures and share in risks, costs and gains

Differences in Defense Practices - ?

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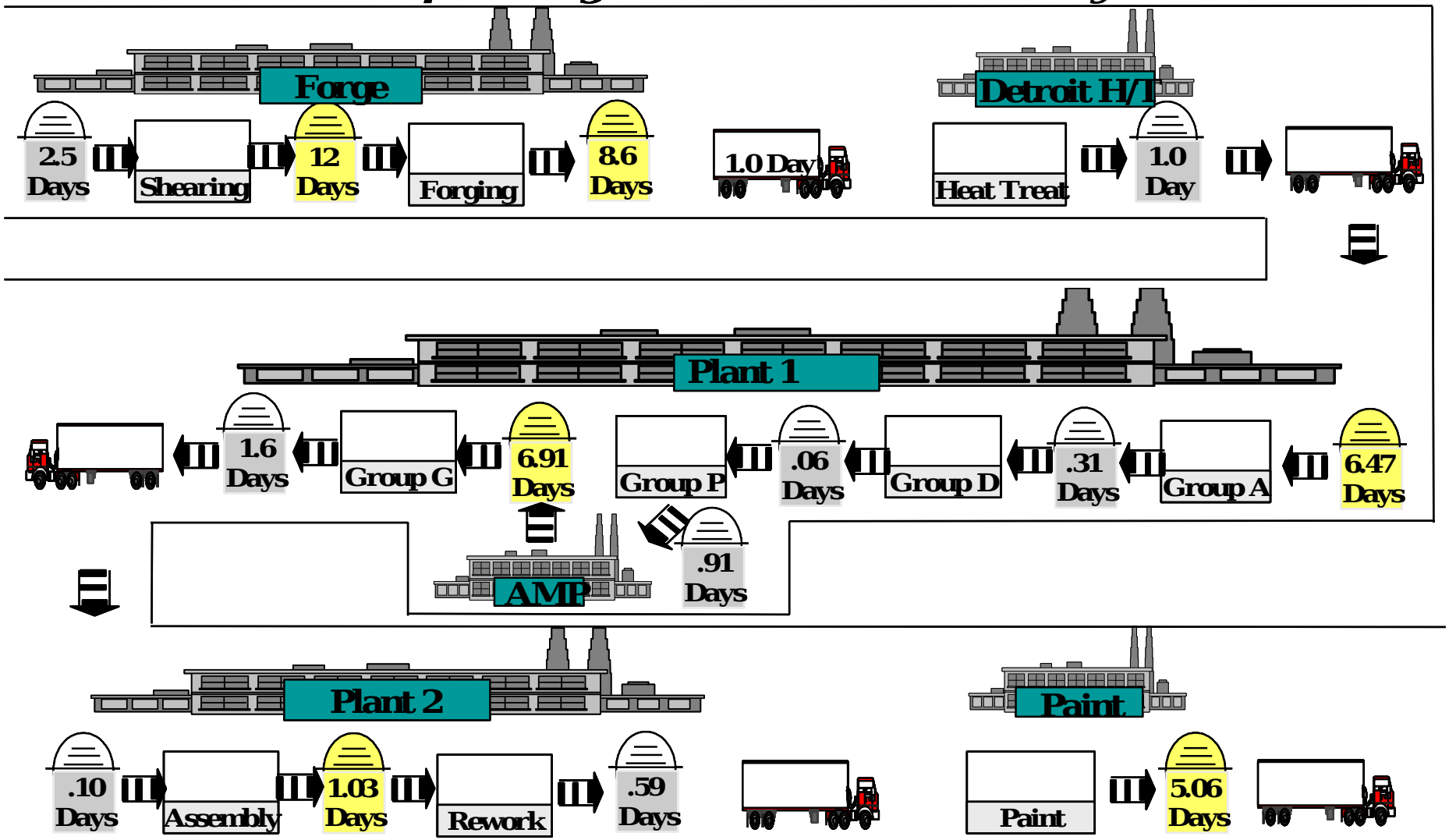
Creating Agility – Reduce Leadtime not Price for Later Demand Flexibility

Performance Gaps - Velocity

Example - Ring Gear Value Chain - 47 Days



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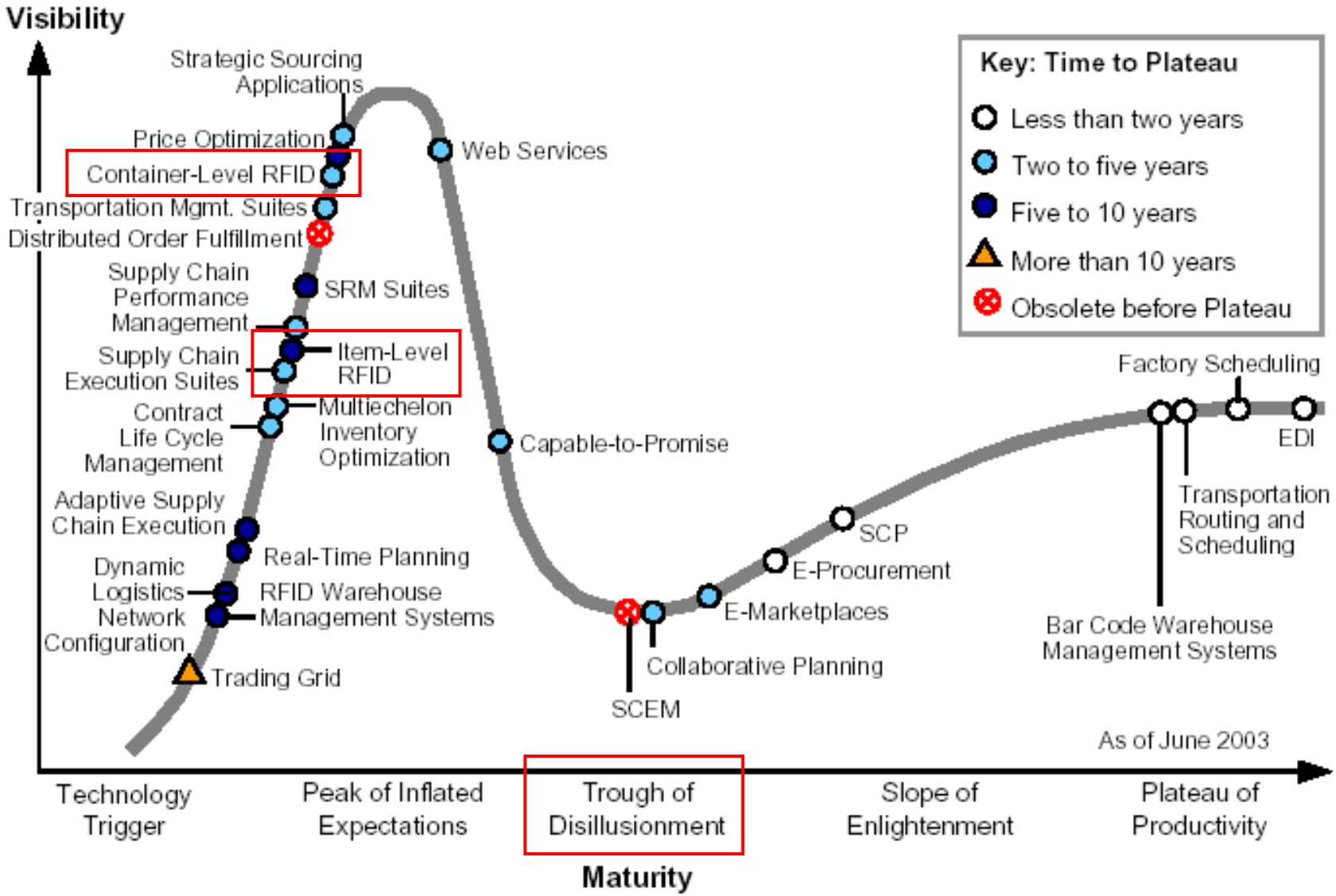
Adaptability – Looking for Productivity … Avoiding the Hy



Source: Gartner Research, June 2003

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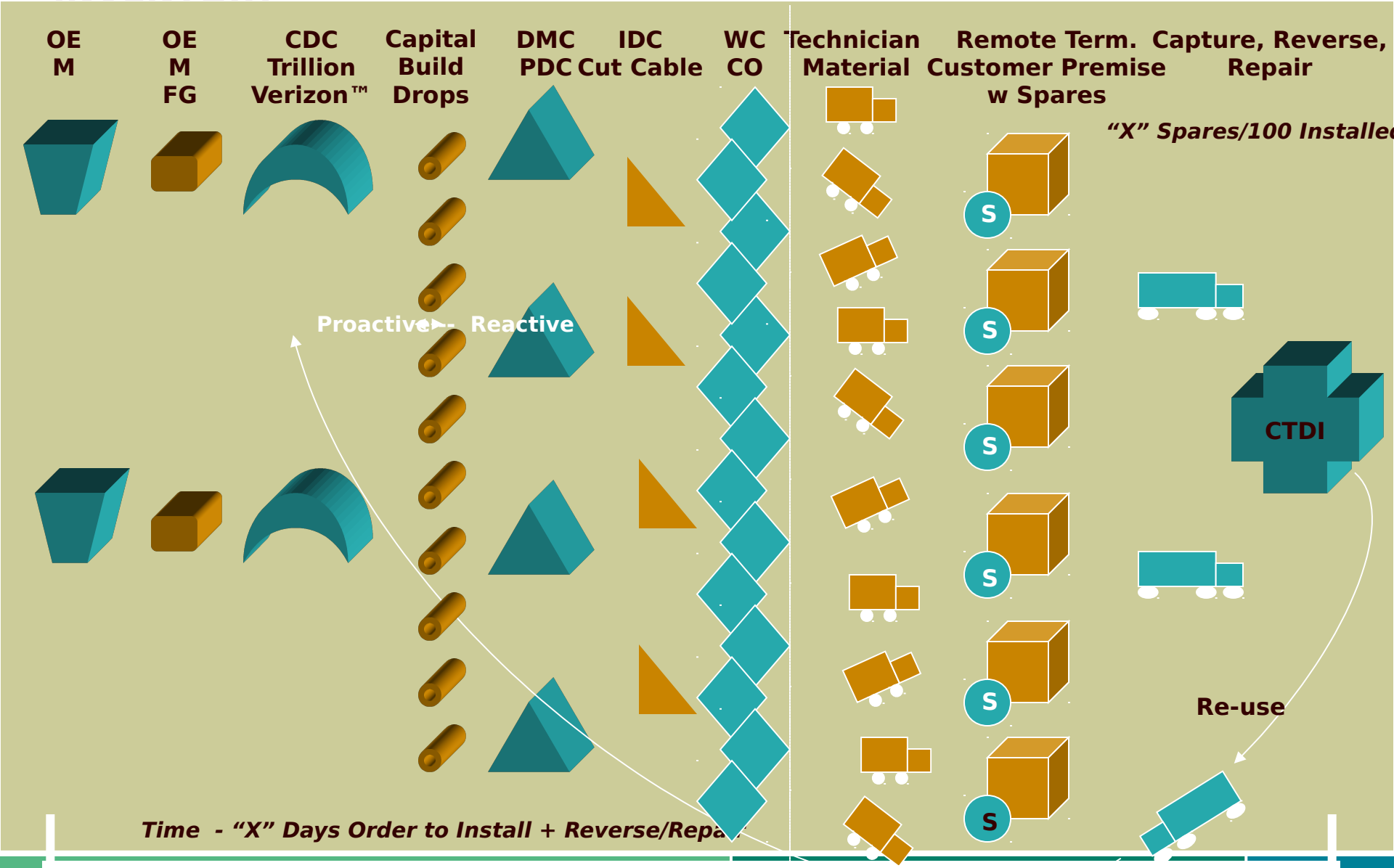
8-9 ECHELON STAGING – "TIME NOT INVENTORY"



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QUANTIFYING DEMAND PROFILES

Based on the 4 districts the UPS team visited and looking at 1 year worth of usage data we broke out volume of activity by demand profile

Demand Profile	Demand Profile Description	Usage %
1	Quick Turnaround – Maintenance or Immediate Provisioning (<4 hour lead time)	13%
2	Non Contract – Same Day Maintenance (3-8 Hr)	8%
3	Company Initiated – Next Day Maintenance – 24 Hours (ex. NRC / COET)	5%
4	I&M Maintenance (24 Hours)	7%
5	SSIM Provisioning (72 Hours)	15%
6	I&M Provisioning (72 Hours)	42%
7/8	Build to Specification (3-120 days)	10%

Same Day – 21%
24 Hours (Overnight) – 12%
72 Hours or Greater – 67%

One third of demand has a lead time of 24 hours or less

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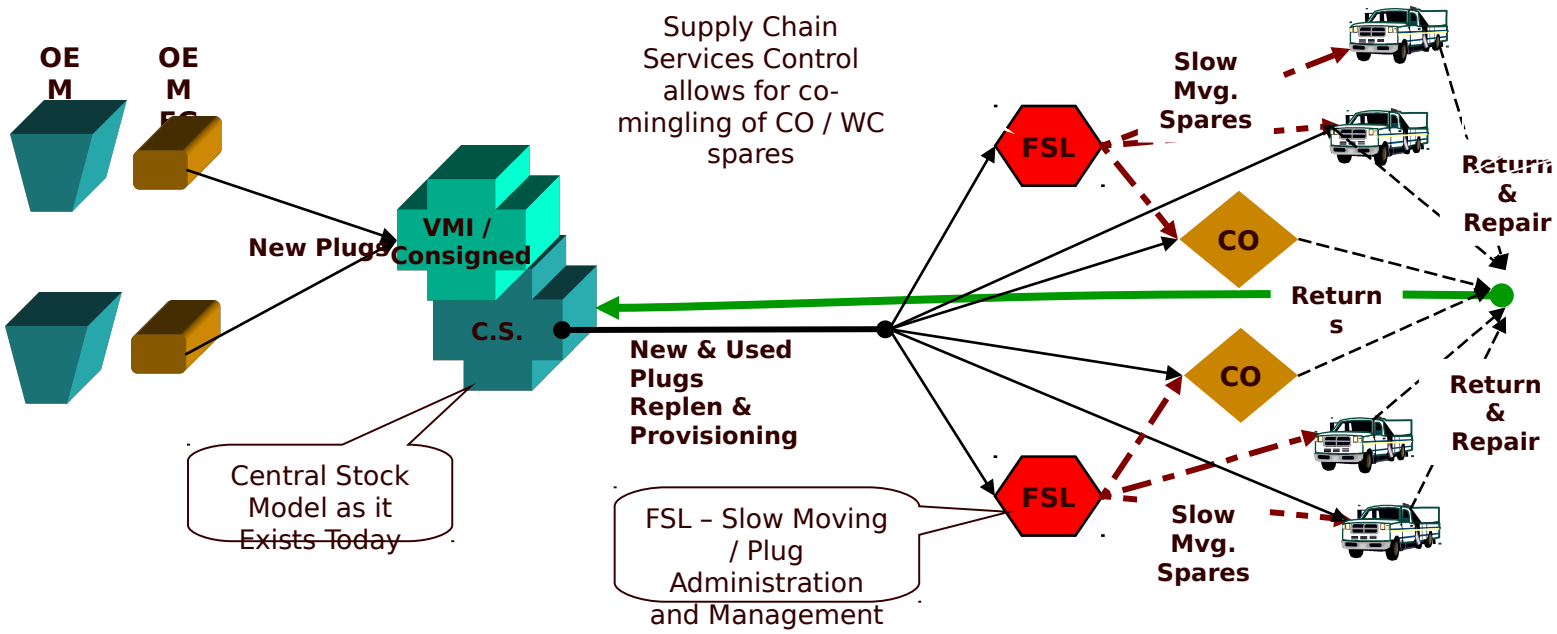
SIMPLIFIED ECHELON MAP, REDUCED INVENTORY LEVELS



Key Model Attributes

- **High moving (frequent use) spare plug-ins are profiled for & held in truck/tech bins, work centers, or CO's. High moving plugs are determined based on SIMM usage history**
- **Slow moving (infrequent use) spare plug-ins are aggregated at FSL's (field stocking locations) that hold slow moving stock for all work centers and CO's in a 2 hour geographic area. CO hubs will be replaced by FSL's.**
- **Central stock manages inventory, orders from OEM's, stores new plugs from OEM's, reuse, bulk buy, and the slowest moving plug IMG's, and ships plugs to replenish field use.**
- **PDC's, IDC's, Supervisor bins will be eliminated and the majority of their functions replaced by FSL's.**

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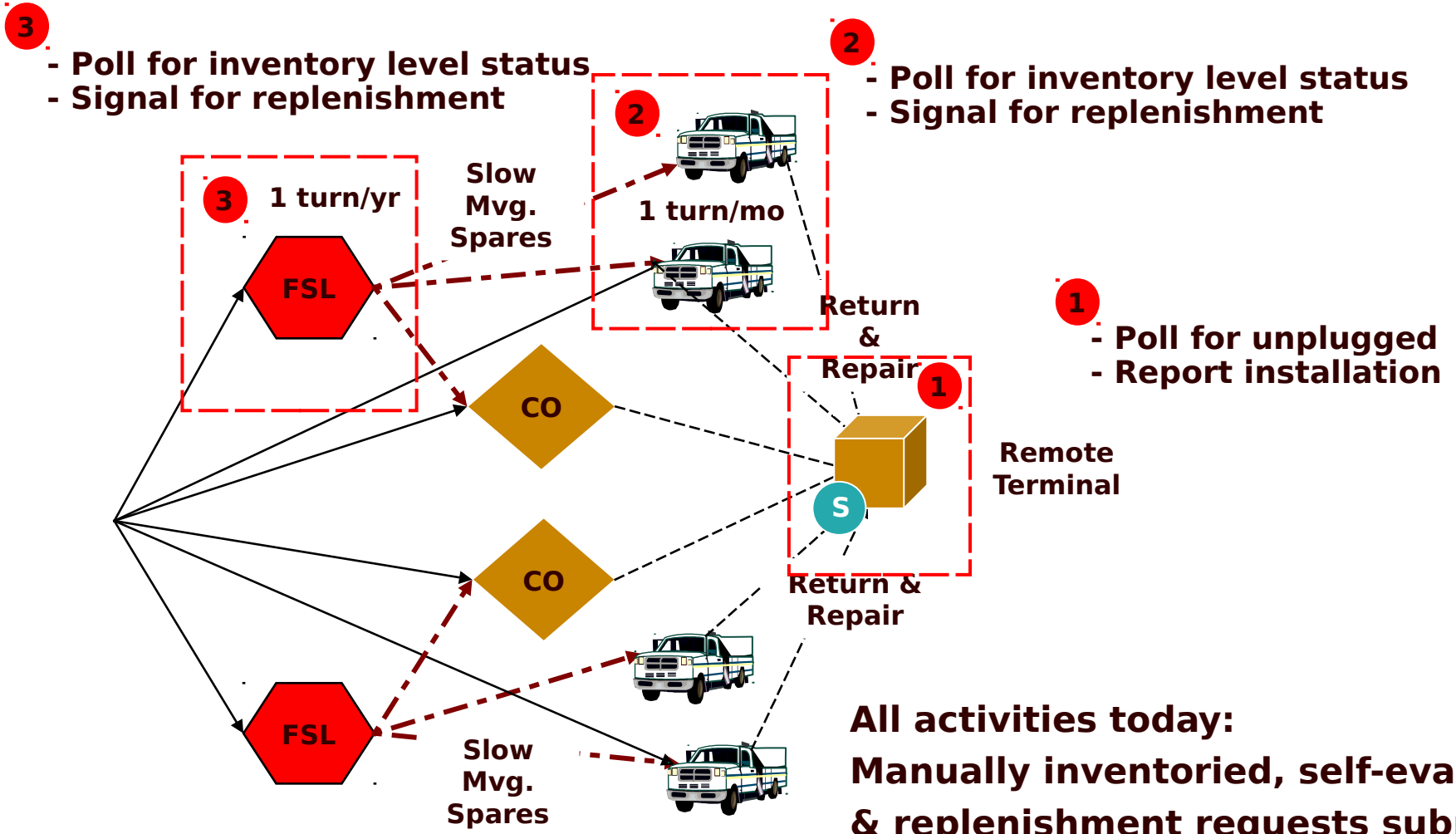
WHERE APPLIED TECHNOLOGY ENHANCES RESULTS



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Alignment – The challenge rests with the customer

"Picture a business where you can sell and collect for a computer immediately, without a paid human as an intermediate, manufacture that computer in less than 20 minutes, ship it through a 3rd-party paid for by the customer, tell suppliers to keep a perpetual 14 days supply of everything they make within a 2-block radius of where you manufacture the final product, sell it to me at a price you would have gone out of business selling that product for just 18-24 months ago, and make you wait 30-45 days to get paid for it … yep, not a bad gig if you can get it …"

VP of Manufacturing for a key hard-drive manufacturer for Dell circa-2000.

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